UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

DTGN

REPLY TO THE ATTENTION OF

November 7, 2002

Roy Ball
Environ Corp.
740 Waukegan Rd.
Suite 401
Deerfield, IL 60015

Dear Roy:

Enclosed you will find comments on the Phase 1 Technical Memorandum for the Eagle Zinc site. Please address these comments, which were discussed at our recent meeting on October 29 and revise the document for resubmittal to the Agencies within 21 days of receipt of this letter, or November 28, 2002.

1. Page 1 par 2. Delete "both" and "complete" in the 2nd sentence. Please also replace "metals concentrations in these media" to "contamination at the site" in the 3rd sentence.

2. Page 4 par 1. Please provide the proper reference to the table where the soil boring sample results are located. Please also provide additional clarification on the last sentence on this page, to further explain details of PID/XRF sampling details, including an explanation as to whether surficial deposits were scraped away before sampling or whether the actual instrument reading was from the ground surface. This explanation should include details on actual depths and areal extent.

3. Page 5 par 1. Were the lab samples collected from the ground surface? Please elaborate. Replace "metals concentrations" with "XRF screening results" in the 4th sentence.

4. Page 5 par 2. Reference the figure where the PID results are located. Was there any visual contamination in the soil samples that could be used to locate samples for lab analysis? Were any of the lab samples located near current manufacturing operations? Were the additional borings advanced after screening samples were collected, sampled at the same depth as the PID/XRF measurements?

5. Page 5 par 3. It is not clear from the text whether all initial borings were done first and where the samples were stored until actual sampling locations could be selected. Footnote 2 should be modified to indicate that beryllium and thallium were not included as part of the XRF screening.

6. Page 6 Section C par 2. Add flow arrows for drainage channel flow direction to Figure II-2. Sample SD-WD-10 should not be considered a background sample as it is located in the drainage area just south of the site, downgradient from areas of the site which have known exceedances.

7. Page 7 1st incomplete par. Was the actual sample collected after all the screening results for all samples were collected or was this done individually?

8. Page 7 Section D par 1. Please clarify the text to explain how the pile configurations that were discovered in the field work compare to what was included in the workplan and update information as necessary. Will the pile recycling activities cease now that the plant is closing up operations? Please also update any pile configuration or characteristic information from what was outlined in the workplan. All references to NP (new piles) should be explained with the above requested clarifications. This report also indicates that only 15 of the piles identified in the workplan were sampled. At our meeting, it was discussed that field decisions limited the total number of piles-please provide this explanation in the text.

9. Page 8 par 1. Any data collected as part of TL Diamond's closure activities should be referenced in the site documents, probably as part of Phase 2 summaries but here, if currently known. If not known, a statement should be added to the text indicating that this data will be included when available. This data should then be included in the site data summaries during the RI.

10. Page 9 Section III. These sections should be modified and updated based on the Phase 1 fieldwork with differences between what was stated in the workplan and what was discovered during sampling highlighted.

11. Page 10 Section G. A qualitative ecological assessment was reported as being completed during Phase 1. As requested at the meeting, an explanation as to objectives, what guidance was utilized, what was done, where it was done, and where the results will be reported and a description of how the results will be used to focus further site work, should be added to the text. Please also give a timeline for when this report will be available and transmitted to the Agencies.

12. Page 11 Section A. The reference to Illinois TACO numbers as a reference is acceptable as long as they are not used to limit future sampling or reduce analytical protocols or limit contaminants of concern discussions. Also, the use of the TACO numbers should only be done for comparative purposes as a preliminary screening tool, as their use may or may not be appropriate when evaluating risk and proper cleanup technologies. As outlined in the meeting, please replace the term PRGs in this document with a term like screening levels, as this may confuse the actual issue of properly selecting soil cleanup levels. Please also provide an explanation as to why the Region 3/9 EPA risk tables for soil were not used for this comparison analysis.

13. Page 11 par 3. Portion of last sentence regarding arsenic as background should be removed-see comment 12 for explanation. These levels that are presented in this paragraph and the preceding one are for commercial/industrial use, not residential. Please clarify in the text.

14. Page 12 par 1. Did this kriging method pick up areas where the XRF or lab sampling did not identify exceedances?

15. Page 12 par 2. It is not clear in this discussion as to whether any actual data for cadmium was utilized in this estimating process. It is more appropriate to use actual lab or real XRF data for a comparison rather than estimating using estimated Cd values. It is apparent that most of the Cd data was estimated, making any conclusions regarding its presence and at what levels, premature. If the majority of the Cd data was not clearly quantified using XRF, then another screening method must be used to generate the appropriate data. It is also unclear as to how much Cd data was actual lab data and how much was estimated from the XRF.

It appears to be premature to be making conclusions about the extent of Cd in the soils based on the data collected during Phase 1. This data gap will need to be further addressed during the remainder of the RI.

16. Page12 par 3. Remove the 3rd sentence, as discussed at the meeting, as this is a premature conclusion based on data collected to date.

17. Page 13 1st incomplete par. Please bring the footnote discussion into the text and correct the mistakes in the units. The statement regarding VOCs in the first sentence is incorrect. Sample X-206 had VOC concentrations of 1,1,1-trichloroethane (290J ppb), methylene chloride (160J ppb), 2-butanone (48J ppb), and toluene (36J ppb) which was collected on-site at the north end of the west drainage area, north of the SD-WD-9D sample, which does not rule out that it may be impacted by site operations. SD-ED-C should be SE-ED-16. Remove "indicating ...pathways" from the last sentence. The footnote references should state that they are for commercial/industrial land uses and not residential.

18. Page 13 par 1. Please add to the narrative whether there was surface water in the drainage ways when sampling was conducted. This can then be compared to what was predicted in the

workplan. The reference to antimony PRG should indicate that it is for the soil to groundwater pathway.

19. Page 13 Section C. Please include pile volume estimates based on the sampling exercise, as was outlined in the workplan.

20. Page 14 1st incomplete par. Please elaborate on the issues related to TCLP/SPLP, which were mentioned briefly at our meeting. Please outline the major issues here for eventual discussion in the Phase 2 results meeting with respect to risk and fate and transport issues. MP1-1 should be MP1-21. Please also add the phrase "the RCRA hazardous waste threshold value of" after "the TCLP lead results" in the 2nd to last sentence. Replace the last sentence with "No other metals had TCLP results in excess of their respective RCRA hazardous waste threshold values.

21. Page 15 Section V. The updates to the conceptual site model are acceptable as long as information is not being deleted from the model at this stage. New information can be added to the tables at this time, and again after Phase 2 sampling has been completed. Any revisions of the model that remove certain elements can only occur after all sampling has been completed and results available. This model should also include the results of previous sampling at the site.

Based on previous sampling results, lead should be added to the table for on-site soil. The following contaminants should be added to the sediment-western drainage way column-nickel, thallium, silver, lead, 1,1,1-trichloroethane (these were detected in 1998 sampling).

22. Page 15 par 2. See previous comment about removing contaminants from the model-all sampling has not been completed and it is premature to reduce this list until this is completed.

23. Page 16 AOC table. Based on the 1998 sampling, piles RR1-1, RR1-2, RR1-4, RRO-12, RCO-10, and CPH-6 should be added to the residues column. Each had TCLP lead in excess of the RCRA hazardous waste threshold.

24. Page 16 Exposure routes table. Addition of ecological receptors to the on-site soil column should be done as the ecological survey has not been completed and impacts on ecological recepters cannot be ruled out at this point. Addition of a column for soil leaching to groundwater COCs (i.e. cadmium and lead) and adding ingestion/inhalation COCs (cadmium and lead) to the exposure routes for onsite soils.

Addition of ecological receptors to the on-site sediments column should be done for the reasons listed above and adding inhalation/ingestion for cadmium and lead to the exposure routes column should be done for the same reasons.

A column for on-site residues should be added to this table with appropriate entries for affected population and exposure routes for the same reasons as listed above.

The site trespasser/site employee should be added to the affected population column as discussed at the meeting.

25. Page 18 Section A par 1. Two additional samples should be collected in the on-site pond, one at the north end of the pond and one at the south end, on the site side of the outfall. These samples should be analyzed for the constituents listed for surface water in the RI/FS workplan.

26. Page 18 Section B 1st bullet. Remove the word "temporary" from the 1st line. As discussed in the meeting, some or all of these piezometers should be developed as permanent monitoring points for groundwater level measurements, which will assist in the understanding of groundwater flow directions at and from the site.

27. Page 19 1st three lines. Compare these locations to Figure A-5 and the workplan to highlight where the locations have changed and provide justification as to why they have changed. Additional wells should be added to the following two areas, as discussed at our meeting. One should go to the west of the area from the old foundation to the small scale house (near WA-9) and the other should go in Area 4, south of A4-5 to investigate residues found below the water table.

28. Page 19 bullets. A surface water sample should be collected at sediment sample location SD-WD-9 due to metals contamination discovered there.

The background surface water sample at SD-WD-10 should be replaced by a sample near location SD-WD-5, because SD-WD-10 is located in the drainage way just south of the site, downgradient of areas with known sampling exceedances.

Off-site sediment and surface water sampling results should be compared to residential land use PRGs and not the commercial/industrial land use PRGs, due to the residential nature of the off-site area. The list of COCs may change by changing the focus of the off-site sample comparison.

A statement to the effect that the piezometers will be geologically logged during installation and the boring results reported in the Phase 2 TM will provide valuable information for updating the site model during and after Phase 2 work.

29. Page 19 Section C. Provide elaboration on the sampling protocol for further sampling of the waste piles, including how they will be segregated with composite sampling used for further characterization. This information should be sufficient to explain how this newly collected information will be sufficient for additional characterization purposes and show how this data will augment previously collected data.

The workplan called for an evaluation of off-site air deposition potential for each of the residual piles to be collected during pile sampling activities. This information should include data on wind direction and visual observations during soil sampling and should be usable in the analysis

or potential off-site migration of pile materials. The workplan also called for an estimate of pile volume for each pile-please provide this information.

30. Figures. Historical data should also be included on these figures in the data summary as this data is useful in evaluation of nature and extent of contamination at the site.

31. Figure IV-4. Change "SD-ED-6" to "SD-ED-16." The stream segment near SD-WD-10 should be included as an AOC as arsenic exceeded the PRG. The stream segment near SD-WD-7 should include vinyl chloride as a COC, because it exceeded the PRG there. Pile locations and storm water retention ponds should be included on all figures in this document.

32. Figure IV-5. Replace "( ) TCLP lead above 5" with "(5) TCLP lead above the RCRA hazardous waste threshold"

33. Figure VI-2. Please list drainage ways on this figure. The northernmost well should be moved to the area sough of WA-9, which had the 2nd highest cadmium results. Groundwater samples from this location should be analyzed for VOCs and metals.

At the meeting, a number of typographical errors were identified in the tables and figures in the document-I trust that these changes have already been made in the document.

If you have any questions regarding these comments, please contact me.

Sincerely yours,

Dion Novak

Dion Novak
Remedial Project Manager

cc: R. Lanham, IEPA
T. Krueger, ORC
T. Biggs, CH2M Hill